

Abstract

The problem of solution transfer between meshes arises frequently in computational physics, e.g. in Lagrangian methods where remeshing occurs. The interpolation process must be conservative, i.e. it must conserve physical properties, such as mass. We extend previous works — which described the solution transfer process for straight sided unstructured meshes — by considering high-order isoparametric meshes with curved elements. The implementation is highly reliant on accurate computational geometry routines for evaluating points on and intersecting Bézier curves and triangles.

Keywords: Remapping, Curved Meshes, Lagrangian, Solution Transfer, Numerical analysis

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1 Introduction

I will definitely cite this: [\[JH04\]](#).

References

- [JH04] Xiangmin Jiao and Michael T. Heath. Common-refinement-based data transfer between non-matching meshes in multiphysics simulations. *International Journal for Numerical Methods in Engineering*, 61(14):2402–2427, 2004.